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10/552,945	08/09/2006	Dusan Miljkovic	100700.0024US1	2506
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EXAMINER				
MEHTA, HONG T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/552,945

Applicant(s)

MILJKOVIC ET AL.

Examiner

HONG MEHTA

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

This office action is in response to applicant's remarks filed on December 16, 2009.

Pending amended claims 1-20 and new claim 21 are under examination.

Claim Objections

1. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Throughout the disclosure the "quick-dried" whole coffee cherry is defined as resulting in the mycotoxin levels as cited, therefore claim 16 fails to limit claim 15 if "quick dried" is interpreted as defined by the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 16 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1, 16 and 21 recites coffee cherry quick-dry with "less than 10 ppb for total ochratoxins" is contradictory to the term quick-dried coffee cherry as defined in specification page 5, lines 4-11 having below 5 ppb for ochratoxins. It is unclear to which levels of ochratoxins are considered to be mycotoxin levels of quick-dried coffee cherry.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Bucheli et al. (J. Agric. Food Chem. 48, 1358-1362).**

3. Bucheli et al. discloses nonripe coffee cherries (sub-ripe coffee cherry) dried before being dehulled and separated into a green coffee and husk fractions (pg. 1359, col. 2, lines 15-23). Bucheli et al. discusses green coffee bean are well known in the art to be further processed into coffee solubles for beverage food products (pg. 1358, col. 1 lines 9-15)..

4. Bucheli et al. discloses ochratoxins levels (OTA) of only trace amounts in a range not detected up to 0.6 µg/kg (ppm) and husk fraction from about 0.2 to 0.9 µg/kg (ppm) (pg. 1359, col. 2, lines 19-23; pg. 1360, Table 1) during sun-drying and between the zero day and under 5 days drying period. Bucheli et al. teaches the maturity level such as the unripe cherries has no evidence for generation of OTA on unripe cherries under any of the four drying conditions tested (pg. 1361, Table 4; col. 2, lines 6-8) and further discuss the overripe cherries are more prone to OTA contamination due to the sugar availability to affect microbial growth and molds (pg. 1361, col. 2, lines 11-14). Bucheli discloses a dry matter content of cherries with a range of 79-88% (pg. 1360, col. 2,

para. 3; pg. 1361, Figure 2) wherein the moisture content of the coffee cherry is considered to be about 10-12%.

5. Bucheli et al. is silent on the mycotoxin levels of aflatoxins and fumonisins, However, Bucheli et al. clearly teaches the reduction of ochratoxin levels in coffee cherry material can be achieved by properly handling and drying whole coffee cherry. Furthermore, Bucheli et al. teaches unripe coffee cherries are optimal to have low mycotoxin levels compared to overripe coffee cherries and under optimal drying conditions within a short period of time after harvesting. Bucheli's dried coffee cherry is expected to have naturally low mycotoxin levels of aflatoxins and fumonisins since the ochratoxin levels are taught to be inherently low based upon the sub-ripening stage and the drying steps. Therefore, other mycotoxin levels are expected to also be within the claimed range.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
9. **Claims 15-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bucheli et al. (J. Agric. Food Chem. 48, 1358-1362).**
10. **Regarding claim 15**, Bucheli et al. discloses nonripe coffee cherries (sub-ripe coffee cherry) dried before being dehulled and separated into green coffee and husk fractions (pg. 1359, col. 2, lines 15-23). Bucheli et al. discusses green coffee beans are well known in the art to be further processed into coffee solubles for beverage food products (pg. 1358, col. 1 lines 9-15). It would have been obvious to one of ordinary skill in the art to add hot/warm water to make an infusion of tea with dried coffee cherries, since it is a well known practice to add warm liquid to dry plant material to make an infusion beverage for consumption.
11. **With respect to claim 17**, Bucheli et al. is silent on polyphenol concentration of at least 10 mg/oz. The polyphenol concentration is related to the maturity level of the

coffee cherries. As the coffee cherries of Bucheli are sub-ripe, and are quick-dried in a manner similar to that of the instant disclosure, it is expected that the polyphenol level will be at least 10mg/oz.

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bucheli et al. (J. Agric. Food Chem. 48, 1358-1362).

13. Bucheli et al. discloses nonripe coffee cherries (sub-ripe coffee cherry) dried before being dehulled and separated into a green coffee and husk fractions (pg. 1359, col. 2, lines 15-23). Bucheli does not specify the color of the sub-ripe cherries. The stages of maturity in coffee cherries are well known in the art to be associated with color of the coffee cherry fruit and ranges from green, yellow and red color. Since Bucheli et al. teaches overripe coffee cherry are undesirable due to its sugar content to promote microbial growth, fungi and ultimately mycotoxins, it would have been obvious to one of ordinary skill in the art to select coffee cherries with primarily red color with less than 25% green color to ensure a reduction the mycotoxin levels of dried coffee cherry.

14. Claims 1-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sivetz et al. (Coffee Technology 1979) and in view of Bucheli et al. (J. Agric. Food Chem. 48, 1358-1362).

15. Regarding claims 1, 2, 3, 4, 5, 11, 13 and 14, Sivetz et al. discloses food product comprising a preparation of whole coffee cherry (pg. 76, line 12). Unripe whole coffee is considered to include sub-ripe coffee cherry. Sivetz discuss quick-dried as a whole fruit with mechanical driers or on the sun-drying terrace to make a *natural* coffee, a food product (pg. 76, line 13-14). Sivetz et al. discloses the strip-picked

heterogeneous mixture, including green coffee cherry, ripe and soft overripe which vary in proportions as harvest season progress, are made into *natural* coffee (pg. 86, paragraph 6). Sivetz et al. discloses process of drying process (pg. 82, paragraph 3) of the coffee cherry into *natural* coffee wherein producing an excellent quality, clean tasting and full bodied coffee foodstuff upon human consumption. Examiner considers the mentions to tasting attribute are taste evaluations due to oral consumption by humans.

16. Sivetz et al. discloses natural coffee (pg. 86, paragraph 6) which is processed into soluble coffee. Sivetz's process of hulled coffee beans (extract) from dried coffee cherry is considered to be an extract of whole coffee cherry wherein the coffee cherry is quick dried with mechanical driers or sun drying terrace. It is well known in the art that soluble coffee with the addition of water is a popular consumed beverage; therefore Examiner considers soluble coffee as food ingredient and extract in a food product, coffee beverage. Furthermore, Examiner considers Sivetz's preparation of whole coffee cherry to exposure to sun-drying terrace and mechanical driers as quick-dried preparation, as defined in Applicant's specification as using heated air exposure to sun and/or ambient air on page 3, lines 24-26.

17. Sivetz et al. discloses the cherries to be sub-ripe coffee cherry in all stages of ripeness, including green color (pg. 76, lines 11) and cherry refers to the red color of the coffee fruit are harvest and to be processed by quick-drying. Sivetz et al. discusses the high moisture content in coffee promotes the growth of microorganism such as molds, fungi and bacteria (pg. 81, para. 2, pg. 127, para. 3; pg. 128). As Applicant disclose

"...mycotoxins are typically present in substantial quantities in ripe and overripe coffee cherries, whereas quick-dried sub-ripe coffee cherries or portions thereof, are substantially devoid or have very low content of mycotoxins" (page 3, paragraphs 2 and 3).

18. Sivetz et al. is silent on the quick-dried cherry having a designated myotoxin levels.

19. Bucheli et al. discloses nonripe coffee cherries (sub-ripe coffee cherry) dried before being dehulled and separated into a green coffee and husk fractions (pg. 1359, col. 2, lines 15-23). The coffee cherries contain only trace amounts of OTA in a range of not detectable up to 0.6 µg/kg (ppm) and a husk fraction from about 0.2 to 0.9 µg/kg (ppm) (pg. 1359, col. 2, lines 19-23; pg. 1360, Table 1) during sun-drying and between the zero day and under 5 days mark drying period. Bucheli discloses a dry matter content of cherries with a range of 79-88% (pg. 1360, col. 2, para. 3; pg. 1361, Figure 2) wherein the moisture content of the coffee cherry is considered to be about 10-12%.

20. It would have been obvious to one of ordinary skill in the art to use Bucheli's unripe quick-dry coffee cherry with low mycotoxin levels in Sivetz's *natural* coffee soluble food product because it would be beneficial to reduce exposure of high mycotoxins levels in food product to health of humans and animals. This reasonable expectation of success would motivate one of ordinary skill to modify the teaching of Bucheli and Sivetz to arrive at the instantly claimed composition.

21. **Regarding claims 6, 7 and 8**, Bucheli does not specify the color of the sub-ripe cherries. The stages of maturity in coffee cherries are well known in the art to be

associated with color of the coffee cherry fruit and ranges from green, yellow and red color. Since Bucheli et al. teaches overripe coffee cherry are undesirable due to its sugar content to promote microbial growth, fungi and ultimately mycotoxins, it would have been obvious to one of ordinary skill in the art to select coffee cherries with primarily red color with less than 25% green color to ensure a reduction the mycotoxin levels of dried coffee cherry.

22. **Regarding claim 9 and 10**, Bucheli discloses a dry matter content of cherries with a range of 79-88% (pg. 1360, col. 2, para. 3; pg. 1361, Figure 2) wherein the moisture content of the coffee cherry is considered to be about 10-12%.

23. **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sivetz et al. (Coffee Technology 1979) and in view of Bucheli et al. (J. Agric. Food Chem. 48, 1358-1362) as applied to claim 1 above, and further in view of Kellogg (US 2,557,294).**

24. Sivetz et al. and Bucheli et al. disclose the claimed invention as discussed regarding claim 1.

25. Sivetz et al. and Bucheli et al. do not teach whole cherry particles (extract) in a cereal food product.

26. However, Kellogg discloses coffee extract used as a flavoring agent in cereals and cereal beverages (col. 4, lines 1-6). It would have been obvious to one of ordinary skill in the art to combine Sivetz and Bucheli's extract as a flavoring agent in cereal as taught by Kellogg because coffee extract and cereal food products are known successful combinations for flavoring purposes.

Response to Arguments

27. Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection.

28. In response to applicant's argument that Sivetz's whole coffee cherries are not quick dried as define on page 6, lines 5-9. Examiner disagrees. As discussed above, Sivetz's preparation of whole coffee cherries includes exposure on a sun-drying terrace and mechanical driers as quick-dried preparation, which is similar to Applicant's specification using heated air exposure to sun and/or ambient air on page 3, lines 24-26, hence Examiner consider Sivetz's preparation of whole coffee cherry to be "quick dried" as claimed in recited in claim 1. The specification does not define the term "quick dried" as to exclude any other process which includes the heated air exposure as discussed above

29. Sivetz discuss quick-dried as a whole fruit with mechanical driers or on the sun-drying terrace to make a *natural* coffee, a food product (pg. 76, line 13-14). Sivetz et al. discloses the strip-picked heterogeneous mixture, including green and red coffee cherry which vary in proportions as harvest season progress, are made into *natural* coffee (pg. 86, paragraph 6).

30. The language of "**an extract of an optionally comminuted whole coffee cherry**" is considered to include any extract from any fragments or portions of the whole coffee cherry. Sivetz et al. discloses natural coffee (pg. 86, paragraph 6) which is processed into soluble coffee. Sivetz's process of extraction of coffee beans is

considered to be an extract of whole coffee cherry. Sivetz's quick dried whole coffee cherry and soluble coffee extract encompass the instant limitations cited in claim 1.

31. In response to applicant's clarification on preservation in a coffee cherry, Sivetz et al. discusses that high moisture content in coffee promotes the growth of microorganism such as molds, fungi and bacteria (pg. 81, para. 2).

32. Applicant argues that the ingredient must be a whole coffee cherry. However, the claim language states that the ingredient may be an extract of an optionally comminuted whole coffee cherry. The phrase "extract of an optionally comminuted whole coffee cherry" includes the phrase "optionally" which leaves the source of the extract open. Sivetz et al. discloses a natural coffee as a product-by-process step preparation of quick drying the whole coffee cherry. Sivetz's natural coffee is considered as food ingredient to a food product, coffee beverage as discussed above to amended claim 1. Sivetz et al. meets the limitations of food product as cited in the instant claim. In regard to the specific mycotoxin levels as cited in the instant claims, applicant argues that the cited references teach mycotoxins levels in coffee bean and not whole coffee cherry. It is noted, applicant claims extract of comminuted coffee cherry in claims 3, 4, 5, 13, 14, 15, 16, 17, 19 and 20 which inherently includes coffee bean in a whole coffee cherry. Additionally, it is clearly stated in claim 4, line 2, and claim 5, line 2, "bean of the coffee cherry". Furthermore, Bucheli teaches the low toxin levels in the entire coffee fruit (cherry) including the husks. Bucheli harvests and dries the coffee cherry in its whole form, and separates the cherry for the purpose of measurement of

the toxin levels. The reference clearly shows that the entire coffee cherry has the low toxin levels.

33. Applicant argues Bucheli teaches that sun drying consistently lead to mycotoxin formation. Bucheli is relied upon the teaching optimization in handling such as storages and drying conditions and unripe stage of coffee cherry in order to prevent and reduce mycotoxins OTA in coffee. It would have been obvious to one of ordinary skill in the art to recognize Bucheli's selective and handling of coffee cherry to reduce and prevent toxins into food product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HONG MEHTA whose telephone number is (571)270-7093. The examiner can normally be reached on Monday thru Thursday, from 7:30 am to 4:30 pm EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Htm

/Jennifer C. McNeil/
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